

ABSTRACT

Assemblages of particles of a magnetic alloy that are suited to magnetic recording are represented by the formula $[T_X M_{1-X}]$ containing T and M in a composition ratio where X in the formula is in the range from 0.3 or greater to 0.7 or less, where T is one or two members of the group consisting of Fe and Co and M is one or two members of the group consisting of Pt and Pd, and metallic elements other than T and M that constitute no more than 30 at.% (including 0 at.%) of $(T+M)$ as a percentage of atoms, and the remainder consists of impurities that are unavoidable from a production standpoint, wherein: the face-centered tetragonal fraction is 10–100%, the average grain size as measured by TEM observation (D_{TEM}) is in the range from 5–30 nm, the x-ray crystal grain size derived by x-ray diffraction (D_X) is no less than 4 nm, the particles of are dispersed from each other at a distance, and the dispersion on the composition of the individual particles is kept within a stipulated range.